

Project letter: Grid Integration Study

Commissioned by the Ministry for Economic Affairs and Energy (MWE) of Brandenburg the Chair of Power Distribution and High-Voltage Engineering conducted a first study concerning the integration of renewable energies into the grids of Brandenburg from 2006 until 2008.

Due to the rapid development, especially in the field of photovoltaic, a follow-up study was necessary in order to update the results and conclusions. This second grid study for Brandenburg was conducted between 2009 and 2011.

The research was based on an extensive prognosis concerning the extension of wind and PV capacities, mainly based on regional plans. As part of the study, extensive grid expansion investigations were undertaken for all network levels and different scenarios were developed.

The study shows the necessary grid expansion (new constructions and retrofitting measures) according to voltage level and network operators. The proposed grid expansion measures are extensive and do not only cover transmission lines but also new constructions or expansions of transformer stations. The necessary investments were determined. The study also deals with other issues such as energy storages and the modalities of NSM calls in order to give a full overview on all topics relevant at that time concerning the grid integration of renewable energies.

The substantial findings of the study are still up-to-date and have been confirmed by the grid development and expansion plans of the network operators.

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